DOCUMENT RESUME

ED 188 331 EA 012 786

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TITLE School Referenda: Local Sovereignty vs. Equality in Resource Allocation. Program Report No. 80-B5.
INSTITUTION Stanford Univ., Calif. Inst. for Research on Educational Finance and Governance.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Apr 80
NOTE 43p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Bond Issues; Educational Finance; Elementary Secondary Education; *Finance Reform; *Minority Group Influences; Models; Racial Factors; Resource Allocation; *School Budget Elections; School Districts; *Socioeconomic Influences; *Voting

ABSTRACT

This paper examines several types of school referenda with a view to examining how such referenda have served to limit or reinforce educational resource inequalities. Drawing on the results of previous studies and the author's research on California referenda, the paper seeks to provide answers to four crucial questions. First, to what extent are the outcomes of referenda decisions systematically influenced by local socioeconomic factors as well as the financial characteristics of a given election? Second, has the referendum process mitigated or enforced the inequality implied by wide educational resource variations? Third, what lessons can be learned from the existing body of knowledge on referenda that will aid in the development of an educational finance system consistent with the provision of equality in educational opportunity? Finally, what are the major limitations of previous educational referenda outcome studies and what are the gaps in our present knowledge of educational referenda outcomes? The author notes that the inherent inequality of a system in which local school expenditures are tightly influenced by local conditions has been reinforced by the referendum process. (Author/IRT)

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Institute for Research on Educational Finance and Governance

SCHOOL OF EDUCATION STANFORD UNIVERSITY

EA 012 786

Program Report No. 80-B5

SCHOOL REFERENDA: LOCAL SOVEREIGNTY VS. EQUALITY IN RESOURCE ALLOCATION

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April 1980

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The research for this report was supported by funds from the National Institute of Education. The analyses and conclusions do not necessarily reflect the views or policies of this organization.

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Abstract

This paper addresses the process by which local school referenda decisions have been made and the outcomes of this process. Local decisions are influenced not so much by the general characteristics of the community, but by those who participate in this process. Referenda decision making is viewed as a sequence of filters, such that the final outcome may depart significantly from the preferences of the general community.

The inherent inequality in educational resource allocation is reinforced by the referenda process. Where legislated revenue/expenditure limits have sought to equalize spending, the optional override "escape valve" referenda have served to reestablish the previous pattern of inequality.

The paper reviews previous studies as well as providing new evidence based on the experience of California's unified school districts.

Acknowledgments

The author wishes to gratefully acknowledge the collaboration and assistance of W. Norton Grubb, John E. Coons, Stephan Sugarman and Michael Tripp. Comments and suggestions by Henry M. Levin and Jay G. Chambers, as well as the review and comments by March Boal are sincerely appreciated. Any remaining shortcomings are, of course, my own.

Educational resource allocation has until recently[1] been overwhelmingly a local decision making process. Given existing federal and state aid programs, local district spending levels have been determined by the unique financial, socio-economic, and other characteristics of the individual districts. Given the wide variations in financial characteristics, especailly the property tax base, and disparate socio-economic characteristics it was not surprising that spending levels varied widely as they were conditioned upon these local factors.[2]

Local resource allocation decisions were made by locally elected boards and/or their appointees[3] in response to local conditions and pressures. In addition, resource constraints could be set by the outcomes of local referenda.

This paper examines several types of school referenda - bond elections, tax elections and revenue limit override elctions - with a view to examining how such referenda have served to limit or reinforce educational resource inequalities. Drawing on the results of previous studies and the author's research on California educational referenda, the paper seeks to provide answers to four crucial questions. First, to what extent are the outcomes of referenda decisions systematically influenced by local socio-economic factors as well as the financial characteristics of a given election? Second, has the referenda process mitigated or enforced the inequality implied by wide educational resource variations? Third, what lessons can be learned from the existing

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1. The role of the federal government in the budget process is still small, with the federal contributions amounting to less than 9 percent of total elementary and secondary educational outlays during the 1970's. But, Serrano and Serrano inspired suits and legislation have significantly shifted the resource allocation decisions from the local toward the state level.

2. See, fro example, W. Norton Grubb and Jack W. Osman, "The Causes of School Finance Inequalities: Serrano and the Case of California, "Public Finance Quarterly", Vol. 5, No. 3, (July 1977), pp. 373-391. The earlier study by John E. Coons, William Clune and Stephan Sugarman, Private Wealth and Public Education (Cambridge: Belknap Press of Harvard University, 1970) focused attention on property wealth disparities and provided the legal framework for Serrano and related court decisions.

3. It goes without saying that this does not imply a purely passive role on the part of teacher and other employee unions or professional organizations.

body of knowledge on referenda which will aid in the development of an educational finance system consistent with the provision of equality in educational opportunity?[4] Finally, what are the major limitations of previous educational referenda outcome studies and what are the gaps in our present knowledge of educational referenda outcomes?

MODELING THE SCHOOL REFERENDA PROCESS

It is useful at the outset to sketch the outlines of the school referenda decision process which is examined in this paper. For, in this way the reader may better visualize the interconnections within this process. As depicted in Figure I, there are two major sets of decisions which, through a series of "filters", determine the outcome of the referenda process in terms of success and failure, the composition of the successful measures, and the consequent impact on interdistrict revenue and expenditure variations. Both sets of decisions -who the voters will be and how they will vote, and which districts will hold elections - are influenced by the socio-economic, race-ethnic, and financial characteristics of the school districts and their citizens.

Beginning with the voter population, we see that each step or "filter" reduces the number of voters. Not all otherwise eligible citizens register, not all registered voters choose to vote, and obviously, the favorable vote is but a fraction of the total votes cast. The major component in each "filter" is the socio-economic and race-ethnic compostion of the district citizens. Thus, it is unlikely that the proportion of voters favoring a measure is the same as that for the voter population as a whole.

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4. We use equal per student expenditures as our measure of equality. The limitations of this measure are well known in the literature and need not be repeated here.

The second component in our model involves the decision by districts whether to hold elections and then deciding on the composition of the ballot meaure. Here too, socio-economic status and race-ethnicity, together with the financial characteristics of the district will be the major factor in the "filtering" process.

The two approaches generally used to model public expenditure and referenda outcomes involve either viewing the government (here the local school district) as a utility maximizer faced with a budget constraint, or using the median-voter model where the outcome is "tipped" by rational decision making by the median voter.[5] Unfortunately, as we shall see, some of the significant variables may not be unambiguously interpreted as income, price, or taste variables. Further, both the median-voter and utility maximizing models require the positing of arbitrary functions. Rather than developing elaborate models of the referenda process, the empirical approach used in this paper relies either on linear regression models, or cross-tabulations partitioned by key variables.

Referenda studies have used either the individual voter or governmental units with varying citizen and referenda characteristics as the unit of observation.[6] Both methods have

5. See, for example, Richard A. Musgrave and Peggy B. Musgrave, Public Finances in Theory and Practice, (New York: McGraw-Hill, 1976), pp.630-635 for a general presentation of the former, and Theodore Bergstrom and Robert Goodman, "Private Demands for Public Goods," American Economic Review, Vol.LXIII(June, 1973), pp.280-96 for an example of the latter approach.

6. See, Robert E. Jennings and Mike M. Milstein, "Citizens' Attitudes in School Tax Voting," Education and Urban Society, May 1973, pp.299-318, for an example of the former; while Arthur J. Alexander and Gail V. Bass, Schools, Taxes, and Voter Behavior: An Analysis of School District Property Tax Elections, (Santa Monica: Rand, April 1974), uses the district as the unit of observation.

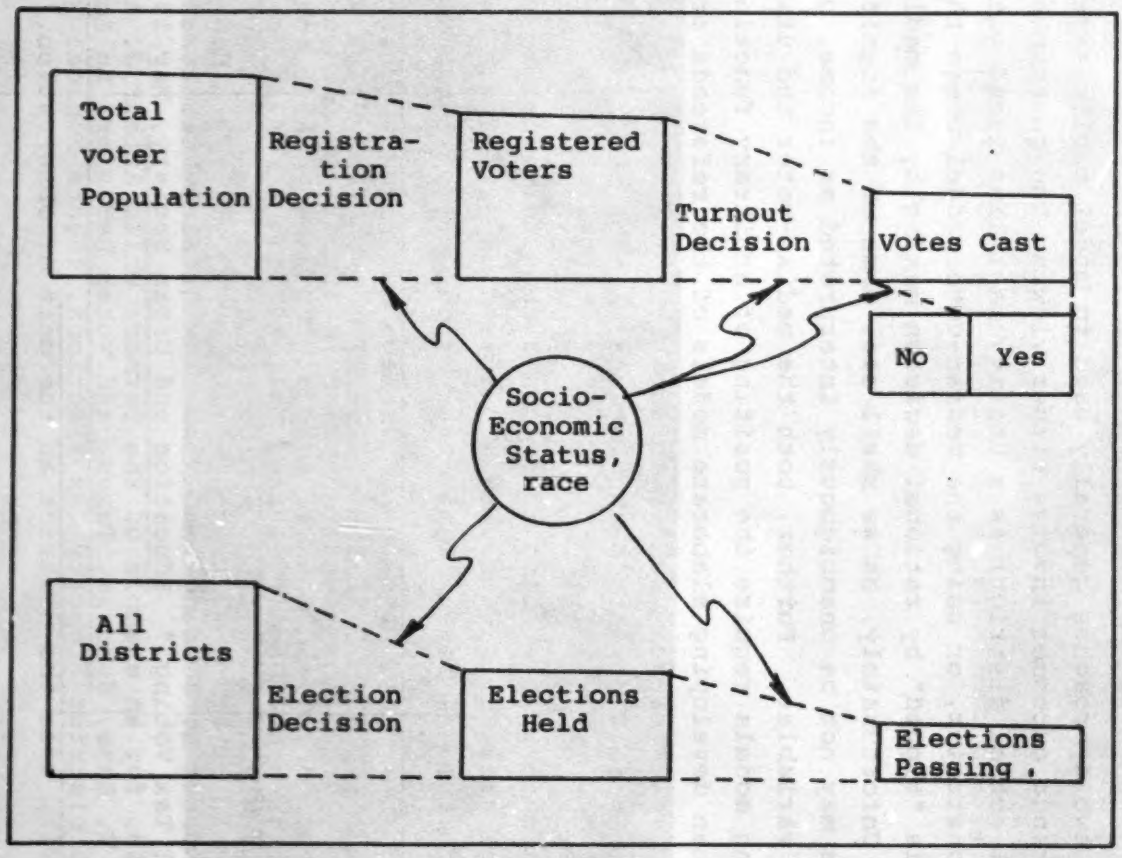

FIGURE I

THE LOCAL SCHOOL REFERENDA FILTERING PROCESS

their limitations. Voter responses to surveys may not accurately reflect why or how they voted, while using actual referenda data and the government unit's characteristics may not accurately portray how individuals or identifiable subgroups within the district voted. The problem of the ecological fallacy is treated in a later section of the paper. It should be borne in mind throughout that the unit of observation used in presenting our data and analyses is the individual school district .

SCHOOL REFERENDA TURNOUT

Turnout and Resource Allocation

Political participation is far from universal. Further, it is not uniform among different socio-economic groups. Thus, with resource allocation influenced through the referenda process, and with preferences for or against particular referenda measures varying across identifiable subgroups of the electorate, the allocation of resources resulting from the electoral process may not reflect the preferences of the majority of the citizenry. With respect to the referenda filtering model of Figure I, the proportion of votes cast which are favorable may differ significantly from the proportion of the total voter population favoring a given election measure. Thus, a minority may succeed in passing (failing) a referenda measure while the majority might be opposed (in favor).

A majority of school referenda decisions are made by a minority of the registered voters. For example, in a study of over 2,500 bond and tax referenda held in 1054 school districts throughout the U.S. between 1948 and 1959, the mean turnout was but 36.3 percent.[7] A later study restricted to California

7. Richard F. Carter and John Sutthoff, Communities and Their Schools, Stanford: Institute for Communication Research, 1960, pp.110-111.

reported that in fiscal 1973 half the tax elections and 59 percent of the bond elections had less than a 40 percent turnout.[8]

Tables I and II display the sparce voter turnout for the 36 California school district revenue limit elections and 63 school bond elections,which were held during 1977-78. Most elections had a voter turnout of less than half the eligible voters, while over 55 percent of the revenue limit elections and 60 percent of the bond elections elicited a turnout of less than half of the registered voters. About one-third (39 percent and 35 percent of the revenue limit and bond elections respectively) of the elections attracted less than 40 percent of the voters, and some elections attracted less than 20 percent of the voters.

Low turnout in itself need not result in a misallocation of resources. For, if preferences for or against school referenda were invariate across distinct subgroups of the population or if the subgroups were represented among the voters in proportion to their numbers in the general population the preferences of the voters would mirror those of the district population. However, as we shall see, neither of these two conditions is generally met.

The Filtering Process: Who Votes?

Stated briefly, not all eligible voters vote, and not all citizens become eligible. There are two major components to the voter "filtering process." First, the registration process is a major determinant of which citizens vote.[9] And the different

8. Jack W. Osman and W. Norton Grubb, "Adjustments from Disequilibrium in Local Finance: School Referenda in California", Childhood and Government Project, U.C. Berkeley, 1978, an earlier version, "Voter Turnout and Fiscal Impact: An Analysis of Local Finance Disequilibrium", Was presented before the Western Regional Science Association, Palm Springs, California, February 28, 1975.

9. See, for example, Stanley Kelley, Jr., Richard E.Ayres and William G. Bowen, "Registration and Voting: Putting First Things First," The American Political Science Review, LXI (June 1967) pp.359-377.

TABLE I

VOTER TURNOUT OF CALIFORNIA SCHOOL DISTRICT
REVENUE LIMIT ELECTIONS, 1977-78

Percent of Registered Voters Voting	Elections Conducted		Cumulative Frequency
	Number	Percent	
Less than 10	-	-	-
10 - 19.9	3	8.3	8.3
20 - 29.9	7	19.4	27.7
30 - 39.9	4	11.1	38.8
40 - 49.9	6	16.7	55.5
50 - 59.9	3	8.3	63.8
60 - 69.9	8	22.2	86.0
70 - 79.9	5	13.9	100.0
80 and above	-	-	100.0
Total	36	100.0	100.0

Source: California State Department of Education, California Public Schools, Selected Statistics, 1977-78. Sacramento, 1979, Computed from Table III-100, p.24.

TABLE II

VOTER TURNOUT AND OUTCOME OF CALIFORNIA SCHOOL DISTRICT BOND ELECTIONS, 1977-78

Percent of Registered Voters Voting	Elections Conducted		Cumulative Frequency
	Number	Percent	
Less than 20	1	1.6	1.6
20 - 29.9	5	7.9	9.5
30 - 39.9	16	25.4	34.9
40 - 49.9	16	25.4	60.3
50 - 59.9	7	11.1	71.4
60 - 69.9	11	17.5	88.9
70 - 79.9	5	7.9	96.8
80 and above	2	3.2	100.0
Total	63	100.0	100.0

Source: California State Department of Education, California Public Schools, Selected Statistics, 1977-78, Sacramento, 1979, computed from Table III - IIc, p.26.

identifiable subgroups have differences in their representation among registrants. Factors such as "sex, age, race-ethnicity, and occupation may influence participation [voting]" and this is done "most directly by governing voter qualification [registration] rather than turnout."[10]

Numerous studies have examined the factors associated with a differential propensity to vote among those who are registered.[11] Two recent studies of California school referenda elections have uncovered a number of significant factors which distinguish districts with high voter turnouts from those with low turnouts.[12] The first, which examined 144 school referenda held in 1971-72 found that suburban districts with a high proportion of young adults and a high proportion of owner occupied homes tended to exhibit a lower voter turnout.[13] The second, found that age, socio-economic status and race-ethnicity affected voter turnout.[14] The sample in this later study consisted of 203 local school tax elections and 209 bond elections held from the 1969-70 fiscal year through the 1972-73 fiscal year.[15]

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10. Dan Nimmo and Clifton McClesky,"Impact of the Poll Tax on Voter Participation," Journal of Politics, Vol. 31, August 1969, p.697.
11. Among the pioneering studies was Angue Campbell, Philip E. Converse, Warren E. Miller, and Donald E. Stokes, The American Voter, (New York, John Wiley and Sons, 1960). This was a general voter analysis and not restricted to referenda.
12. Strictly speaking, aggregate characteristics which distinguish between high and low turnout districts need not imply the same differential response among individuals distinguished by that same characteristic. For example, the findings that districts with high average incomes have a high turnout does not necessarily imply that high income citizens have a greater propensity to vote. This issue of the ecological fallacy is dealt with in a later section.
13. Arthur J. Alexander and Gail V. Bass, op.cit. See, in particular, Table 6, p.40.
14. Jack W. Osman, and W. Norton Grubb, (1978) op.cit.
15. Numerous districts held several elections during the sample period. The tax elections sample involved 133 different districts while the bond election sample included 116 different districts. Many districts were represented in both samples.

In the landmark 1971 Serrano decision the California Supreme Court declared that access to public educational resources shall not be conditioned upon district wealth. California Senate Bill 90 (SB-90) was the legislature's first major response to meeting the Serrano edict. The provisions which included 1) limits on per student outlays 2) increases in the limits with a full inflation offset for lower spending districts and only a partial offset for higher spending districts, were intended to bring convergence in per student spending over time. A third provision was the local option to raise the revenue limit by a simple majority vote. Beginning with the first year that these provisions were in effect, (1973-74) through the 1977-78[16] fiscal year, a total of 589 revenue limit override elections were held. A sample, consisting of the revenue limit override elections in unified districts during the first two years that these elections were held (1973-74 and 1974-75) reveals that while the average turnout was 49 percent, socio-economic status and race-ethnicity were again associated with differential rates of voter participation. The results are summarized in Tables III and IV.

From Table III it may be observed that only the race-ethnic variables, percent Black, percent Chicano, and total percent minority were significantly associated-in these cases negatively - with turnout. In other words, without standardizing for other

16. The passage of Proposition 13 in June, 1978 and the subsequent "bail-out" legislation spelled an end to the revenue limit elections. In passing, it should be noted that few of these override elections were held in the year prior to the Passage of Proposition 13. The largest number (269) were held in 1974-75 followed by a steady decline to only 36 being held in 1977-78.

TABLE III

CORRELATION BETWEEN REVENUE LIMIT ELECTION VOTER TURNOUT AND SELECTED DISTRICT CHARACTERISTICS: CALIFORNIA UNIFIED SCHOOL DISTRICTS, 1973-74 and 1974-75

District Characteristics	Simple Correlation Coefficient: r
Percent Population Age 5-18	- .095
Percent Population Age 65 and Over	+ .118
Mean Family Income	- .003
Median Family Income	- .040
Percent Family Income Below $4000	+ .122
Percent Family Income Above $15,000	- .032
Percent Black	- .223*
Percent Chicano	- .215*
Percent Asian	- .166
Total Percent Minority	- .361*
Percent College Graduates	+ .061
Percent Professional	+ .044
Percent Unemployed	- .129
Percent Home Owner Occupied	+ .024

N = 108. Mean (Unweighted) Turnout = 49.0%

*significant at 5% level

Source of Data: California State Department of Education and 1970 Census of Population School District Fourth Count Tape.

TABLE IV

VOTER TURNOUT: REVENUE LIMIT ELECTIONS
CALIFORNIA UNIFIED SCHOOL DISTRICTS:
1973-74 and 1974-75

Independent Variable	Regression Coefficient (Sampling Error)
June Elections	7.455 (2.566)
November Elections	18.555 (2.283)
Percent Chicano	-.205 (.091)
Percent Unemployed	-2.242 (.926)
Percent Attending Private Schools	- .743 (.223)
Existing Revenue Limit	- .0109 (.0040)
Proposed Revenue Limit Increase	.0263 (.0117)
Constant Term	66.237
RSQD	.496
S.E.E.	9.643
N	108

Sources of Data: California State Department of Education and 1970 Census of Population School District Fourth Count Tape.

factors, districts with large minority populations had a lower voter turnout.[17]

Table IV estimates the individual impact of several sets of district characteristics which influence voter turnout - timing, race-ethnicity, socio-economic status, and the financial characteristics of the elections. Not surprisingly, turnout was greater if the election was held concurrently with other major elections (June and November). The percent Chicano was negatively associated with turnout, while neither the percent Black nor percent Asian was included, in part due to their lack of significant association. This finding is consistent with a previous study of California tax and bond election turnout,[18] and consistent with the hypothesis of Chicano underrepresentation in the electoral process.

Increased unemployment rates were significantly associated with reduced voter turnout. None of the other direct measures of socio-economic status was significant. The percentage of students within the district's enrollment area who attend private schools (including parochial) was negatively associated with turnout. This might imply a reduced interest in the outcome of school referenda on the part of parents whose children did not attend public schools.[19] It is not clear, however, whether this variable measures taste for private education, or at least in part, socio-economic status, as it was significantly associated with family income, the percent of families with incomes in excess of $15,000, the percent of population who are college

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17. This is consistent with other studies of voter response which find that minorities are underrepresented at the polls. See, for example, Wirt and Kirst, The Political Web of American Schools (Boston:Little, Brown and Co., 1972), pp.102-104. In reviewing the evidence they conclude "compared to urban whites, blacks support tax referenda much more, but they turn out to vote less,and even when turned out they tend to vote less on school referenda."
18. Jack W. Osman and W. Norton Grubb,(1978)op.cit.Tables I and II. It should be noted that after standardizing for other factors, blacks were no longer found to be underrepresented in this study of tax and bond issues, as well as in the case of revenue limit elections as shown in Table IV. Black underrepresentation is thus due to collinearity with other factors such as socio-economic status variables.
19. These families would, of course, be affected by the tax impact implied by the referenda's passage or failure.

graduates, and the percent who work in professional occupations. Further, it was negatively and significantly associated with the percent of families with incomes below $4000 and the percent unemployed.

The composition of the referenda measure also impacts on voter turnout. The larger the revenue limit increase (and the larger the financial impact), the higher was the turnout, apparently implying a heightened level of interest in the election's outcome. On the other hand, the higher the present revenue limit, the lower was the election turnout.

In summary, all three types of school referenda with which there has been recent experience in California tend to show a differential rate of representation based on socio-economic status and race-ethnicity. To the extent that the under-represented groups have different preferences, the outcome of school referenda will lead to a different allocation of educational resources[20] than that perceived as optimal by the total population.

THE FORM AND TIMING OF SCHOOL REFERENDA: THE MINIMUM DISSONANCE MODEL

Public decision makers in general, and school administrators and board members in particular, follow what may best be referred to as a "minimum dissonance" model of decision making. Rather than putting forth a referenda proposal which may in economic terms be viewed as optimal,[21] the school authorities might propose that bundle of services, or tax rate which would result

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20. A uniform representation by electoral subgroups will not, of course, assure an optimal allocation of resources. As examined in the next section, the compostion of the referenda measure on which the electorate is voting may be suboptimal in terms of alternative measures.

21. For example, the optimal bond referenda would contain the cost-effective or cost-beneficial alternative.

in the least amount of dissonance or stress. The objective function which school authorities seek to optimize would include dissonance as a component. And, the level of dissonance would depend on both the expenditure level and the referenda outcome (success or failure). Thus, higher expenditure levels would reduce dissonance generated by dissatisfied teachers, but might increase the dissonance generated by voter disapproval. Wirt and Kirst have postulated that "most referenda should succeed because schoolmen would call for them only when and in the form that could guarantee victory."[22] And, Wirt and Kirst conclude "...that is exactly what does occur, judging by the record of the last several decades."[23] In the early 1960's, over 70 percent of school bond issues were approved nationwide. This had fallen to 53 percent by 1970 and by 1971 and 1972 less than half the elections were passing.[24]

While the nationwide approval rate for bond referenda averaged 67.2 percent in the ten year period, 1962-1971, California, with a two-thirds majority requirement for bond passage, maintained an approval rate averaging 58.0 percent.[25] However, during the decade of 1970's this dropped dramtically. Table V shows the results for bond elections for California school districts from 1969-70 through 1977-78. Excepting the first year (1969-70) between two-thirds and three-quarters of those referenda failed to meet the two-thirds majority vote required for passage. Finally, a review of the results of California tax elections (1969-70, 1972-73) and revenue limit elections (1973-74) through 1977-78 provides little support for Wirt and Kirst's assertion

22. Frederick M. Wirt and Michael W. Kirst, Op.Cit., p.109 Wirt and Kirst do not describe their model as one of "minimum dissenance"- but rather, state that "if the reduction or elimination of environmental stress is a driving force for most political authorities, they should use referenda only when certain that it will reduce and not increase the stress upon them", Ibid.
23. Ibid.
24. See, Howard D. Hamilton and Sylvan H. Cohen, Policy Making by Plebiscite: School Referenda (Lexington, Mass.: D.C.Heath and Co.,
25. Ibid. Appendix B2.

The heavy failure rate of school referenda during the 1970's implies one of several possibilities. First, voter "preference" for educational referenda may have shifted faster than the school authorities perceived. Second, it is possible that the "minimum dissonance" decision making model no longer applies. Or third, dissonance might no longer be minimized or reduced by tailoring referenda soley to the voter preferences as perceived by the school authorities. Increased teacher and union militancy pressing for better facilities and higher expenditures may have affected the timing, size, and composition of the school referenda put forth by the school authorities. Minimizing dissonance may now imply reducing the stress from putting forth a referenda measure departing significantly (generally smaller) from that favored by the teachers and their representatives as well as reducing stress from putting forth a measure which departs significantly (generally larger) from that favored by the majority of the voters. If this analysis is correct, the greater weight given to teacher preferences and those of other constituencies, and the proportionately reduced weight given to voter preferences, would lead to the expectation of reduced passage rates, consistent with the results reported above.

TABLE V

RESULTS OF CALIFORNIA LOCAL SCHOOL DISTRICT BOND ELECTIONS:
1969-70 through 1977-78

Year	Number of Elections	Number Passing	Percent Passing
1969-70	201	83	41.3
1970-71	116	29	25.0
1971-72	102	24	23.5
1972-73	78	27	34.6
1973-74	94	28	29.8
1974-75	77	20	26.0
1975-76	58	16	27.6
1976-77	44	11	25.0
1977-78	63	15	23.8

Note: Passage requires a two-thirds majority.

Source: California State Department of Education, California Public Schools Selected Statistics, 1972-73 through 1977-78.

TABLE VI

RESULTS OF REVENUE LIMIT AND TAX ELECTIONS: CALIFORNIA LOCAL SCHOOL DISTRICTS: 1969-70 through 1977-78

Year	Number of Elections	Number Passing	Percent Passing
1969-70	254	120	47.2
1970-71	240	125	52.1
1971-72	177	89	50.3
1972-73	81	42	51.9
1973-74	89	49	55.1
1974-75	269	101	37.5
1975-76	123	31	25.2
1976-77	72	33	45.8
1977-78	36	16	44.4

Note: Elections prior to 1973-74 were tax rate elections; those held in 1973-74 through 1977-78 were revenue limit elections.

Source: California State Department of Education, California Public Schools Selected Statistics, 1972-73 through 1977-78.

The Timing and Form of Referenda: Which Districts Hold Referenda?

The existence of revenue limit override referenda in California during the 1970's provides insight into the nature of the districts which chose to hold such referenda. The analysis below reveals some of the socio-economic and financial characteristics of those districts which responded most quickly to the new legislation by holding override elections during the first two years following the passage of SB-90. It should be borne in mind that the legislation was, in part, an attempt to provide greater equality in school spending per student by not only increasing the foundation (the state guaranteed level of support), but also by restricting the rate of expenditure growth, particularly in the high expenditure - high wealth districts. In this manner, spending levels were expected to converge over time. Districts were, however, permitted to lift revenue limits by securing a simple majority of the voters. It is this concession to local sovereignty which compromised the expectation of convergence.

Table VII displays the socio-economic, race-ethnic, and financial characteristics of those districts which held override elections compared with those districts which did not. What emerges very dramatically, is the finding that districts holding override elections were on the average characterized by higher socio-economic status residents, and a smaller proportion of minority students, particularly Chicanos (the same was not true for Blacks and Asians). Finally, and not surprising, those districts holding revenue limit override elections were characterized by higher wealth (assessed valuation per student ADA) and higher expenditures per student (total current expenditure per ADA).

TABLE VII

SELECTED CHARACTERISTICS OF SCHOOL DISTRICTS WITH RESPECT TO HOLDING REVENUE LIMIT OVERRIDE ELECTIONS 1973-74 or 1974-75: 234 Unified School District Sample

Characteristic	Districts Holding Elections	Districts Not Holding Elections
Socio-Economic Status		
Percent College Graduates	12.3	9.6
Percent Professional	16.6	13.4
Percent in Poverty	7.9	10.0
Mean Family Income	$11,814	$10,828
Percent Income Below $4000	13.0	15.3
Percent Income above $15,000	24.7	19.3
Race-Ethnicity		
Percent Black	3.3	2.0
Percent Chicano	11.4	15.0
Percent Asian	1.2	1.1
Total Percent Minority	17.1	20.1
Financial		
1973-74 Property Value/ADA	$19,203	$17,846
1971-72 Current Expenditure/ADA	$967	$912

Note: Of the 251 unified districts in existence in 1973-74 our sample of 234 included 95 percent of the 1973-74 ADA. Our sample includes 77 (93%)of the 83 districts which held elections.

Source of Data: California State Department of Education and 1970 Census of Population School District Fourth Count Tape.

Table VIII further clarifies the association between district wealth, current spending, socio-economic status, and the tendency to hold elections. Here, districts are partitioned on the basis of whether their trait in question was below the median for all unified districts or at or above the median. Thus, we find from panel A that two-thirds of the districts holding elections were higher income (at or above the median for all districts) and somewhat less than two-thirds had current expenditures at or above the median. Further, of the districts holding elections, 42.9 percent had both family income and spending above the median, while less than 16 percent were below the median in both characteristics jointly. Panel B is partitioned at the medians for 1971-72 current spending and assessed valuation, both on the basis of ADA. The elections held were concentrated in the higher income - higher expenditure districts, with 48 percent of the revenue limit elections held being from this group.[26]

Partitioning districts at the median by family income and assessed value per ADA, reveals a similar pattern - concentration of districts holding elections. Thirty-five percent of the districts holding elections had both higher income and wealth, while only 13 percent came from the group low in both characteristics. The implications for equalization and the ability of revenue/expenditure ceilings to limit spending by higher expenditure - higher wealth districts are obvious. Where override elections are provided they will be utilized disproportionately by districts characterized by higher wealth, higher expenditure, and higher socio-economic status. Even if the probability of passage is not conditioned on these characteristics, the equalizing effect of

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26. It should be noted that the 234 sample districts are not evenly distributed among the 4 cells. The greatest concentrations were at the extremes, low wealth - low income, and high wealth - high income. Of the 93 districts in this latter cell, 39.8 percent or 37 districts helf revenue limit elections, which was the highest of any of the four groups.

revenue limits will be reduced by the different traits of the districts which choose to hold override elections. As we shall see in a later section, the probability of passage is clearly not independent of a district's characteristics, but rather, serves to exacerbate the problem caused by the differential tendencies of districts to hold revenue limit elections.

DETERMINANTS OF REFERENDA OUTCOMES

Outcomes of the referenda process consistently have been found to depend on the socio-economic composition of the community. In a review of over 100 reports on school referenda held since 1960 it was found that income and education along with other characteristics, such as demographic factors, were systematically associated with referenda outcomes. Consistently, income and education were positively associated with outcome.[27] A comprehensive analysis by Alexander and Bass of California school tax and bond referenda held in 1971-72 reached similar conclusions.[28]

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27. Outcome was variously measured as percent favoring passage or simply passage. Philip Piele and John Stuart Hall, Budgets, Bonds and Ballots: Voting Behavior on School Financial Elections (Lexington, Mass., D.C. Heath and Co.: 1973) The same general conclusions were reached both from a review of previous studies of school referenda as well as their own analysis: Howard D. Hamilton and Sylvan H. Cohen, op.cit.

28. Alexander and Bass, op.cit. Chapter III. The measure of outcome (the dependent variable) was either a dichotomous Pass-Fail measure or the number and percent voting "yes".

TABLE VIII

CALIFORNIA UNIFIED DISTRICTS HOLDING REVENUE LIMIT ELECTIONS
1973-74 and 1974-75

A

Current Expenditure/ADA

Family Income	Lower	Higher	Total
Lower	12 15.6%	14 18.2%	26 33.8%
Higher	18 23.4%	33 42.9%	51 66.2%
Total	30 39.0%	47 61.0%	77 100%

B

Current Expenditure/ADA

Assessed Value/ADA	Lower	Higher	Total
Lower	24 31.2%	10 13.0%	34 44.2%
Higher	6 7.8%	37 48.1%	43 55.8%
Total	30 39.0%	47 61.0%	77 100%

C

Assessed Value/ADA

Family Income	Lower	Higher	Total
Lower	10 13.0%	16 20.8%	26 33.8%
Higher	24 31.2%	27 35.1%	51 66.2%
Total	34 44.2%	43 55.8%	77 100%

Note: "Lower" means a district was below the median for all unified districts (sample size=234, see text) "Higher" means at or above this median. Each cell shows the number and percent of districts having the given trait.

They conclude[29]

> we can say with confidence that the proposed tax rate and the increase in the tax rate are the strongest and most consistent correlates of tax election passage. Of all the other variables considered, the proportion of families in the highest income category... was the most consistently important. The low or medium income classes, and the occupational classifications of blue collar and clerks and salesmen were weakly linked in a negative way to electoral support. The proportion of owner occupied housing was positively related to election passage...the often complete lack of significance of many SES variables [including education] is startling.

Among the significant factors in a study of the determinants of the outcome (percent voting "yes") of 68 tax elections and 209 bond elections held in California's unified school districts from 1969-70 through 1972-73 were socio-economic status and race-ethnicity. Districts with high proportions of college graduates tended to pass school bond issues, while districts with high proportions of black children tended to vote against school tax increases.[30] This latter result, in particular, must be interpreted with caution, for the unit of observation is the district not the individual voter. The result does not necessarily imply that blacks tend to vote against school tax issues more heavily than whites, rather, this may be a "reactive" decision within the community. Further, there is evidence from this study that referenda serve to maintain the inequalities in spending levels inherent in a system of school finance where spending levels are conditioned on the local wealth base and other district specific characteristics. Districts which spent less than those with similar wealth bases and other characteristics had a greater tendency to pass tax increases, while those spending more than districts with similar characteristics tended to vote

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29. Ibid., p.48.
30. Osman and Grubb, (1978) op.cit.

down tax increase issues.[31] This "disequilibrium" hypothesis, supported by the empirical findings of the study, views referenda as a means of reinforcing or maintaining the tight association which expenditures bear to a district's unique wealth, socio-economic and other characteristics.

Referenda Outcome: California Revenue Limit Elections

It has already been demonstrated that the high expenditure, higher income and higher wealth districts have a greater tendency to hold revenue limit elections. Thus, were the propensity to pass revenue limit elections as well as the dollar increase in the limit, independent of a district's characteristics, inequality would still be perpetuated. But, as shown in the next section, the propensity to pass these elections is conditioned by these same characteristics; thus, further inequality occurs. Finally, it is demonstrated that the size and duration of the measures passed by the higher expenditure - higher wealth districts compounds this problem.

California Revenue Limit Elections: Success Rates

As before, districts holding elections are partitioned at the median for all 234 unified districts in the sample with the results given in Table IX. Each cell displays the ratio of elections passed to those held, with this ratio then expressed as a percent. Thus, it may be seen from panel A that 3 of the 12 elections held in districts having both lower income and expenditures passed, giving a 25 percent "success" rate. At

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31. The method employed was to regress spending on the district wealthbase and other unique characteristics and to use the residuals from this analysis as a dependent variable in the referenda study. Ibid.

the other extreme, districts higher in both income and spending passed 42.4 percent (14 of 33) of the revenue limit elections held. The overall pattern that emerges is clear. Districts presently characterized by higher income, wealth and expenditures had a greater propensity to pass referenda which would permit increases in their spending ceiling. Coupled with the earlier finding that these districts had a greater tendency to hold revenue limit elections, the option to override the state imposed revenue ceilings by the referenda process serves to significantly offset the equalizing effect these ceiling might effect.

Table X displays the distribution of districts which passed revenue limit elections during the 1973-74 and 1974-75 fiscal years.[32] Nearly 72 percent of the districts which passed elections were from districts with above median income. Sixty two and one-half percent were from districts characterized either by higher wealth or higher expenditures. The greater tendency of the higher income -higher wealth - higher expenditure districts to hold elections, together with their higher success rates leads to a disproportionate number of revenue limit elections being passed within this subgroup of districts. Revenue limits were imposed as a deliberate means of promoting a movement toward equalized spending over time. The "escape valve" of the option to hold revenue limit overrides was used disprotionately by those districts already high in spending. Thus, the concession made to provide a degree of local sovereignty in school expenditure level decisions served as ananti-equalizing force. What isn't clear from these tables is the composition of the referenda passed, both in terms of size and duration, and how this reinforces inequality.

32. Note that Panels A and C are identical. In other words, the results are identical whether income is paired with expenditure or wealth since the elements in Panel B form a symmetric matrix.

TABLE IX

PERCENT OF ELECTIONS PASSING: CALIFORNIA UNIFIED SCHOOL DISTRICT REVENUE LIMIT ELECTIONS: 1973-74 and 1974-75

A

Current Expenditure/ADA

Family Income	Lower	Higher	Total
Lower	3/12 25.0%	6/14 42.9%	9/26 34.6%
Higher	9/18 50.0%	14/33 42.4%	23/51 45.1%
Total	12/30 40.0%	20/47 42.6%	32/77 41.6%

B

Current Expenditure/ADA

Assessed Value/ADA	Lower	Higher	Total
Lower	10/24 41.7%	2/10 20.0%	12/34 35.3%
Higher	2/6 33.3%	18/37 48.6%	20/43 46.5%
Total	12/30 40.0%	20/47 42.6%	32/77 41.6%

C

Assessed Value/ADA

Family Income	Lower	Higher	Total
Lower	3/10 30.0%	6/16 37.5%	9/26 34.6%
Higher	9/24 37.5%	14/27 51.9%	23/51 45.1%
Total	12/34 35.3%	20/43 46.5%	32/77 41.6%

Note: "Lower" means a district was below the median for all unified districts (sample = 234, see text) "Higher" means at or above this median.

TABLE X

DISTRIBUTION OF DISTRICTS PASSING REVENUE LIMIT ELECTIONS: CALIFORNIA UNIFIED SCHOOL DISTRICTS, 1973-74 and 1974-75

A

Current Expenditure/ADA

	Lower	Higher	Total
Lower	3 9.4%	6 18.7%	9 28.1%
Higher	9 28.1%	14 43.7%	23 71.9%
Total	12 37.5%	20 62.5%	32 100%

B

Current Expenditure/ADA

	Lower	Higher	Total
Lower	10 31.2%	2 6.3%	12 37.5%
Higher	2 6.3%	18 56.2%	20 62.5%
Total	12 37.5%	20 62.5%	32 100%

C

Assessed Value/ADA

	Lower	Higher	Total
Lower	3 9.4%	6 18.7%	9 28.1%
Higher	9 28.1%	14 43.7	23 71.9
Total	12 37.5%	20 62.5%	32 100%

Note: "Lower" means a district was below the median for all unified districts (sample = 234, see text). "Higher" means at or above this median.

California Revenue Limit Elections: Composition of Passing Elections

The composition of the proposed revenue limit elections and those which passed is also conditioned by the districts' characteristics. Partitioning the elections proposed and the elections which were passed on the basis of district wealth (assessed value per capita) reveals that higher wealth districts both proposed and succeeded in passing larger expenditure increases than lower wealth districts. Of particular significance, we may see from Table XI that the mean expenditure increase passed by higher wealth districts was $172 compared with $94 for those districts with below median wealth. Further, 15 of the 20 measures which passed in higher wealth districts were of unlimited duration, while only 5 of 15 which passed in low wealth districts were without time limit. Thus, given that the typical lower wealth district would have to appeal again to the voters[33] to maintain its higher expenditure ceiling, together with a significant probability of failure, another element of inequality is introduced.

Table XI reveals that the average current revenue limit of higher wealth districts exceeded that of the lower wealth districts, both for elections proposed, as well as for those that passed. Further, the average requested revenue limit increase was much greater for higher wealth districts (for all elections held, as well as for those that passed.) Finally, higher wealth districts had a lower average current tax rate as well as a lower requested increase. In other words, the revenue limit override referenda serve to enforce the existing inequalities of higher wealth districts spending more and generating these revenues at a lower tax rate than lower wealth districts.

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33. For lower wealth districts passing revenue limit measures of fixed duration, the mean duration was 5 years. The corresponding duration for higher wealth districts was 4 years.

The implications of the findings for equalization should be clear. Where revenue/expenditure ceilings are imposed - as they were under SB-90 in California - the existence of override referenda will offset the equalization in spending which these ceilings were intended to provide. This is a classic example of the conflict between local sovereignty and equality of education opportunity.

THE UNIT OF OBSERVATION AND INTERPRETING REFERENDA FINDINGS: A NOTE ON ECOLOGICAL INFERENCE AND FALLACY

The empirical analyses of referenda utilize either the individual voter or a suitable aggregation of individuals, such as the school district, as the unit of observation. Examples of both types of studies appear throughout the literature.[34] Both approaches to examining referenda have their limitations. Questionnaires and interviews are relatively expensive, there are problems in designing and implementing sampling procedures, and possible errors in response. Using the school district, or a subunit, such as the precinct overcomes these problems, but introduces others. We may know the socio-economic and race-ethnic characteristics of the school district, but we do not know directly these characteristics for those who voted. The traits of the average voter may diverge significantly from those of the average resident. Further, we cannot directly infer the nature of the individual response from that of the aggregate.[35]

34. For example, Richard F. Carter, Voters and Their School, (Stanford: Institute for Communication Research, 1960) relied on extensive interviews of individuals, while Alexander and Bass, op.cit., utilized the school district as the unit of observation.
35. See, for example, Laura Irwin Langheim and Allan J. Lichtman, Ecological Inference, (Beverly Hills: Sage Publications, 1978), for a detailed analysis of and solutions to the problem.

TABLE XI

REVENUE LIMIT ELECTIONS 1973-74 and 1974-75:
CALIFORNIA UNIFIED DISTRICTS

	All Districts Holding Elec.	Holding Elections		Passing Elections	
		Lower Wealth	Higher Wealth	Lower Wealth	Higher Wealth
Number of Districts	83	39	44	15	20
Current Revenue Limit Per ADA					
(Median)	$1035.54	980.00	1143.28	967.52	1183.12
(Mean)	1113.13	981.82	1229.51	978.71	1254.42
Requested Revenue Limit Increase Per ADA					
(Median)	120.00	95.55	162.18	82.50	166.00
(Mean)	140.56	98.53	177.81	94.05	172.22
Current Tax Rate					
(Median)	4.25	4.45	4.03	4.47	4.08
(Mean)	4.22	4.56	3.91	4.43	3.80
Estimated Tax Rate Increase to Fund Requested Revenue Limit Increase					
(Median)	.64	.75	.56	.82	.49
(Mean)	.70	.79	.62	.82	.56

Note 1: Lower wealth: Districts below the median 1973-74 assessed value ($15,560) for all unified districts. Higher wealth: Districts at or above the 1973-74 median.

Note 2: This table includes all 83 unified districts holding revenue limit elections during this period.

Source: Compiled by Jack W. Osman in collaboration with Michael Tripp. See Appendix 1, "California Public School Districts 1973-74 and 1974-75 voted overrides," Brief of Amicus Curiae, The Childhood and Government Project (John E. Coons, Stephan D. Sugarman, Robert H. Mnookin), Oct. 1975, L.A. No. 30,398, in the Supreme Court of the State of California.

Source of Data: California State Department of Education.

The primary purpose of the present paper is the examination of the factors influencing interdistrict variations in referenda outcomes and the implications for equality in educational opportunity. Given this focus, the appropriate unit of observation is the district. However, if we wish to examine the responses of different subgroups within districts, we need to proceed with caution. If, as we noted, districts with high proportions of blacks tended to vote more heavily against school bond issues leads us to infer that blacks tend to vote down such referenda, we are committing the ecological fallacy. Since studies of individual voters and those using small, nearly homogeneous aggregate units uniformly find that blacks tend to be more supportive of school referenda than whites, the seeming inconsistency might be explained by the dynamics within districts. Unfortunately, it is entirely plausible that higher proportions of black children in the schools may induce a higher negative vote on the part of whites. Without supporting evidence from surveys of individuals or from relatively homogeneous aggregations, the correct interpretation is not unambiguous.

SCHOOL REFERENDA RESEARCH: SOME UNANSWERED QUESTIONS

Major advances have been made during the past two decades in our understanding of the school referenda decision making process. Yet, gaps remain in our knowledge. This section examines the major limitations of existing studies and outlines a research approach aimed at narrowing the gap in our understanding.

School referenda are generally a means of making marginal adjustments to existing expenditure/revenue levels or to capital stock. The economic theory posits that, ceteris paribus, marginal increments are less highly valued where the existing level of services is greater. Yet, with the exception of the disequilibrium model,[36] this has generally been neglected. Further, the valuation of educational services has been treated independent of the provision of other public services, such as library services,

36. Osman and Grubb (1978), op.cit.

and public recreation facilities, which may be partial complements or substitutes. Thus, the present level of these other services, as well as proposed adjustments to their levels through referenda measures, may impact on the school referenda decisions of voters. For, alternative services may influence both the perceived benefits derived from educational services and facilities as well as impacting on the budget constraint. Economic theory posits that consumers weigh the relative merits of alternative goods and services and base their purchases on the considerations of the relative costs and benefits of the different goods and services. The public sector analogy consists of voters facing a variety of publicly provided services with the voting decision based on the perception of the relative benefits and costs of the public alternatives. What is needed then, is an approach which jointly considers the following: 1) the present level of educational services or facilities, 2) the increment proposed in the referenda, 3) the present levels of other public services or facilities, and 4) the proposed increment, if any to these services or facilities. Existing evidence reveals that jointly held educational referenda will influence voter behavior;[37] the same may be true for non-school referenda.

The estimation of simultaneities in public sector service levels is not possible without a suitable data base. School finance data are provided on a district basis, while other programs are developed on a municipal, county, or special district basis. Since election data are available at the precinct level, it would be feasible to consistently aggregate all data at this level.

37. Ibid. Table IV, Holding school tax issues jointly with bond issues significantly reduced the favorable vote on bond issues.

The existing body of school expenditure and referenda studies assumes a unidirectional chain of causation from current district characteristics to expenditure decisions. However, the Tiebout hypothesis invokes the possibility of reverse causation.[38] The possibility of simultaetiy in decision making needs to be examined lest our results be biased.

It is now evident that voters are not a uniform cross section of the population. Some minorities and lower socio-economic classes are systematically under represented. But, beyond this, little is known about who the voters actually are. This issue is complicated by the possibility that school officials may employ strategies to selectively influence turnout and voter response.[39] Using district aggregates as the unit of observation obscures the dynamics within the community. The identification of the actual voters through surveys would be needed. Or, utilizing small relatively homogeneous units within districts could provide added information.

While our own studies using district wide aggregates have found evidence that districts with high proportions of minorities, particularly Chicanos, have lower turnout rates, caution must be excercised less we fall prey to the ecological fallacy in concluding that minorities tend to be underrepresented. At most we have been able to say that this is consistent with studies using individuals or small homogeneous aggregates as the unit of observation which have found minority underrepresentation.

In order to minimize the difficulties with ecological inference, to aid in identifying which subgroups in a community vote and how they vote, and also to measure possible tradeoffs among public services, a sub-district unit of observation, such as the precinct, is needed.

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38. Charles M. Tiebout, "A Pure Theory of Local Government Expenditures", Journal of Political Economy, October, 1956.
39. See, for example, Michael Y. Nunnery and Ralph Kimbrough, Politics, Power, Polls, and School Elections, (Berkeley: McCutchan Publishing Corporation, 1971). This text reviews the results of school decision making with a view toward uncovering successful strategies for passing elections.

Finally, the reasons underlying the dramatic reduction in approval rates for school referenda needs further exploration. Alexander and Bass found evidence of a "taxpayer revolt" between the mid-1950's and the mid-1960's. However, there was no evidence supporting a "revolt" during the period 1966-72.[40] But, why were issues proposed which predominately failed? Were school officials misreading community preferences to a much greater extent during the 1970's than the 1960's? Or, as we proposed in this paper, had the weights and arguments in the "minimum dissonance" decision model shifted. An examination of variations in district control structures, including variations in the degree and growth of unionism and community coalitions is needed.

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40. Alexander and Bass, op.cit., see, in particular, pp.v-vi.

SUMMARY

Local decisions are influenced not so much by the general characteristics of the community, but by those who participate in the political process, and these are not a random sample of the potential electorate. Registrants, and then voters tend to be drawn from the more highly educated and affluent populace. Hence, resource allocation would tend to be more closely geared to their preferences and economic considerations than those less educated and less affluent. The result may be an allocation of resources departing from that preferred by the broader community. Furthermore, theattempt by school administrators to minimize total dissonance stemming from competing consitutencies of which the voters are but one component, may lead to the proposal of referenda measures other than that which may be optimal from the perspective of the electorate.

Local school expenditures have been tightly influenced by local conditions. The inherent inequality in such a system has been reinforced by the referenda process. Where local spending has departed significantly from that in districts with like characteristics, referenda have served to adjust spending upward or downward to tighten the association between district financial and socio-economic characteristics and spending levels. Where legislation has sought to equalize spending through the use of revenue/expenditure ceilings, but left overrides as an "escape value", these local referenda have served to reestablish the previous pattern of inequality and thwart the equalizing tendency inherent in the state mandated limits. Here we witness the classic conflict between local sovereignty and the goal of equity.

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